

CLAIMS

1. A play toy system using a remote-controlled traveling toy, comprising:

a remote control device for outputting a remote control signal;

a remote-controlled traveling toy including one front wheel, two rear wheels, and an electric motor remote controlled by said remote control signal; and

a play board having a travel surface on which said remote-controlled traveling toy travels;

wherein diameter sizes of said two rear wheels of said remote-controlled traveling toy are different.

2. The play toy system using a remote-controlled traveling toy according to claim 1, wherein said remote control device comprises:

a switch to be operated for outputting a signal for rotating said electric motor at a normal speed; and

an acceleration switch to be operated for outputting an acceleration signal for rotating said electric motor at a speed faster than the normal speed.

3. The play toy system using a remote-controlled traveling toy according to claim 1, wherein said remote-controlled traveling toy is constructed so that:

said electric motor and one or more batteries connected to said electric motor are mounted onto a body of said remote-controlled traveling toy; and

said one or more batteries are juxtaposedly arranged so that longitudinal axes thereof cross a center line of said body extending in a longitudinal direction of said body.

4. The play toy system using a remote-controlled traveling toy according to claim 1, wherein said remote-controlled traveling toy is constructed so that:

said electric motor is arranged between said two rear wheels;

said one or more batteries are arranged between said electric motor and said front wheel; and

said one or more batteries are juxtaposedly arranged so that longitudinal axes thereof extend in a same direction as a direction in which said two rear wheels are arranged.

5. The play toy system using a remote-controlled traveling toy according to claim 1, wherein said play board is shaped so that said travel surface is continuous in a circumferential direction thereof and a height thereof from an installation surface is decreasing toward a central portion thereof; and

in said central portion thereof is formed a concave section with a size capable of fully receiving said front wheel and/or said rear wheels and a depth allowing said remote-controlled traveling toy to get out of there by itself.

6. The play toy system using a remote-controlled

traveling toy according to claim 5, wherein an angle between an inner periphery surface of said concave section and said installation surface is set to an angle range of $93 \pm 1^\circ$.

7. The play toy system using a remote-controlled traveling toy according to claim 5 or 6, wherein a main portion of said travel surface comprises a first inclined surface adjacent to said concave section and having a first radius of curvature and a second inclined surface continuous with an outside of said first inclined surface and having a second radius of curvature close to infinity; and

an angle of said second inclined surface from said installation surface is set in the angle range of 32.2° to 42.2° .

8. The play toy system using a remote-controlled traveling toy according to claim 5 or 6, wherein said travel surface comprises a first inclined surface adjacent to said concave section and having a first radius of curvature, a second inclined surface continuous with an outside of said first inclined surface and having a second radius of curvature close to infinity, a third inclined surface continuous with an outside of said second inclined surface and having a third radius of curvature smaller than the first radius of curvature, and a fourth inclined surface continuous with an outside of said third inclined surface and having a fourth radius of curvature smaller

than the third radius of curvature;

width sizes of said first, second, third, and fourth inclined surfaces become smaller in an order of said second inclined surface, said first inclined surface, said third inclined surface, and said fourth inclined surface; and

an angle of said second inclined surface from said installation surface is set in the angle range of 32.2° to 42.2° .

9. The play toy system using a remote-controlled traveling toy according to claim 8, wherein an angle between said third inclined surface and said installation surface is set in an angle range of $48 \pm 2^{\circ}$; and

an angle between said fourth inclined surface and said installation surface is set in an angle range of $89 \pm 1^{\circ}$.

10. The play toy system using a remote-controlled traveling toy according to claim 9, wherein a substantially horizontal surface is provided outside said fourth inclined surface.

11. The play toy system using a remote-controlled traveling toy according to claim 1, wherein an angle setting of said front wheel can be changed; and

wheel sections of said front wheel and said rear wheels are so formed that a dynamic friction resistance between said play board and said front wheel with the angle setting thereof capable of being changed becomes smaller than dynamic friction resistances between said rear wheels

and said play board.

12. The play toy system using a remote-controlled traveling toy according to claim 1, wherein a wheel section of said front wheel is formed of an ethylene polymer including low-density polyethylene and high-density polyethylene.

13. The remote-controlled traveling toy according to claim 12, wherein said low-density polyethylene accounts for 30 weight percents or less of said ethylene polymer. .

14. A remote-controlled traveling toy including one front wheel and two rear wheels, wherein diameter sizes of said two rear wheels are different.

15. A remote-controlled traveling toy including one front wheel and two rear wheels, and having an electric motor to be driven using one or more batteries as a power source, wherein

diameter sizes of two wheels of said rear wheels are different;

said electric motor and said one or more batteries connected to said electric motor are mounted onto a body of said remote-controlled traveling toy; and

said one or more batteries are juxtaposedly arranged so that longitudinal axes thereof cross a center line of said body extending in a longitudinal direction of said body.

16. The remote-controlled traveling toy according to claim 14 or 15, wherein an angle setting of said front wheel

can be changed; and

wheel sections of said front wheel and said rear wheels are so formed that a dynamic friction resistance between an installation surface and said front wheel with the angle setting thereof capable of being changed becomes smaller than dynamic friction resistances between said rear wheels and said installation surface.

17. The remote-controlled traveling toy according to claim 16, wherein said wheel section of said front wheel is formed of an ethylene polymer including high-density polyethylene and low-density polyethylene.

18. The remote-controlled traveling toy according to claim 17, wherein said low-density polyethylene accounts for 30 weight percents or less of said ethylene polymer.

19. A play board having a travel surface on which a remote-controlled traveling toy travels, wherein

said travel surface is shaped to be continuous in a circumferential direction thereof and have a height thereof from an installation surface is decreasing toward a central portion thereof; and

in said central portion thereof is formed a concave section with a size capable of fully receiving said front wheel and/or said rear wheels and a depth allowing said remote-controlled traveling toy to get out of there by itself.